

Docket No. 0083-0865-2

IN RE APPLICATION OF: Masashi GOTOH, et al.

SERIAL NO: 09/119,626

RCE FILED: December 6, 2001

FOR: CIRCUIT BOARD HAVING BONDING AREAS TO BE JOINED WITH BUMPS BY ULTRASONIC BONDING

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Transmitted herewith is an **Amendment After Final** under 37 C.F.R. § 1.116 in the above-identified application.

- ☒ No additional fee is required
- ☐ Small entity status of this application under 37 C.F.R. §1.9 and §1.27 is claimed.
- ☒ Additional documents filed herewith: Marked-up Copy of Amendment

The Fee has been calculated as shown below:

CLAIMS	CLAIMS REMAINING		HIGHEST NUMBER PREVIOUSLY PAID	NO. EXTRA CLAIMS	RATE	CALCULATIONS
TOTAL	11	MINUS	20	0	× \$18 =	\$0.00
INDEPENDENT	3	MINUS	3	0	× \$84 =	\$0.00
		<input type="checkbox"/> MULTIPLE DEPENDENT CLAIMS			+ \$280 =	\$0.00
		TOTAL OF ABOVE CALCULATIONS				\$0.00
		<input type="checkbox"/> Reduction by 50% for filing by Small Entity				\$0.00
		<input type="checkbox"/> Recordation of Assignment			+ \$40 =	\$0.00
		TOTAL				\$0.00

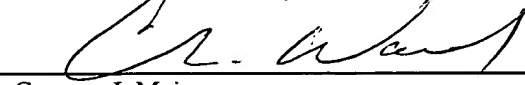
- ☐ A check in the amount of _____ is attached.
- ☒ Please charge any additional Fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to deposit Account No. 15-0030. A duplicate copy of this sheet is enclosed.
- ☒ If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time may be charged to Deposit Account No. 15-0030. A duplicate copy of this sheet is enclosed.



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Serial No.: 09/119,626

Amendment Filed on: October 2, 2002

IN THE CLAIMS

19. (Once Amended) A chip part device comprising:

a circuit board including a board main body and a conductive layer formed on said board main body, said conductive layer having a plurality of bonding areas defined by a conductive pattern; and

a chip element mounted on said circuit board, and having a plurality of bump electrodes which are simultaneously joined with said bonding areas by ultrasonic bonding,

wherein said circuit board includes at least two grooves defined by said conductive pattern and located approximate to one of said bonding areas to put the bonding area therebetween, and wherein at least one of said grooves does not electrically isolate said conductive pattern.

22. (Once Amended) A chip part device comprising:

a circuit board including a board main body and a conductive layer formed on said board main body, said conductive layer having a plurality of bonding areas defined by a conductive pattern; and

a chip element mounted on said circuit board, and having a plurality of bump electrodes which are simultaneously joined with said bonding areas by ultrasonic bonding,

wherein said circuit board includes means for evenly distributing ultrasonic energy applied in a vibrating direction to said plurality of bump electrodes and said plurality of bonding areas.